Peritraumatic Behavior Questionnaire (PBQ)

Initial Validation of a New Tool to Recognize Orange Zone Stress Injuries in Theater

2010 Update

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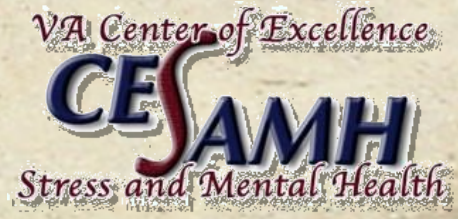

"Indicated" Prevention: the Need the PBQ Is Intended to Address

- IOM (1994) taxonomy for prevention interventions:
  - Universal: for all members of a population
  - Selective: for all members of an at-risk group
  - Indicated: only for individuals with subclinical symptoms
- All three types of prevention strategies may be helpful in preventing PTSD
- Highest effect size is for ***Indicated Prevention*** interventions (Feldman, Monson, Friedman, 2007), e.g.:
  - "Stepped collaborative care" based on individual need

How Can We Identify Significant But Subclinical Stress In Real Time?

- Option 1: Voluntary self-report
  - Advantages: immediate and ongoing
  - Barriers: subjective, stigma, denial, career repercussions, peer or leader pressure, stoicism
- Option 2: Mandatory self-report screening
  - Advantages: universal and regular
  - Barriers: subjective, denial, career repercussions, false negatives or positives, op-tempo
- Option 3: "Objective" observation by familiar others (such as embedded corpsmen,

Peritraumatic Dissociation and Distress As Predictors of PTSD

Table 8

Meta-Analyses of Predictors of Posttraumatic Stress Disorder (PTSD) Diagnosis or Symptoms

Predictor	*k*	*N*	r_u	*r*	CI (unweighted)	CI (weighted)
Prior trauma	23	5,308	.21	.17	.16, .27	.11, .22
Prior adjustment	23	6,797	.21	.17	.13, .26	.10, .23
Family history of psychopathology	9	667	.21	.17	.08, .33	.04, .29
Perceived life threat	12	3,524	.29	.26	.21, .36	.18, .34
Perceived support	11	3,537	−.29	−.28	−.41, −.16	−.40, −.15
Peritraumatic emotions	5	1,755	.28	.26	.10, .42	.08, .42
Peritraumatic dissociation	16	3,534	.43	.35	.25, .58	.16, .52

Note. *k* = number of effect sizes; *N* = total number of participants in the *k* samples; r_u = unweighted effect size estimate; *r* = effect size estimate adjusted for sample size (positive values reflect that the correlate is positively associated with increased PTSD symptoms); CI = 95% confidence interval.

From Ozer, Best, Lipsey, & Weiss (2003) meta-analysis of 2,647 studies of PTSD risk factors

Our Primary Hypothesis

Subclinical peritraumatic distress, dissociation, and dysfunction in a war zone that may confer risk for eventual PTSD can be effectively and efficiently identified in real time by trained third-person observers familiar with the service members being observed.

Methodology for Development of Peritraumatic Behavior Questionnaire

- Modified existing questionnaires covering three domains of combat stress injury symptoms/behaviors:
  - Peritraumatic Distress Inventory (PDI, Brunet et al., 2001)
    - ✓Terror, horror, helplessness, or loss of control
    - ✓A2 criterion for PTSD
    - ✓Shortened to 10 items from 13 and modified language
  - Peritraumatic Dissociative Experiences Questionnaire (PDEQ, Marmar et al., 1994)
    - ✓Cognitive dissociation
    - ✓B criterion for Acute Stress Disorder (ASD)
    - ✓Modified language on 10 items slightly
  - Somatoform Dissociation Questionnaire (SDQ-20,

Questionnaire Development (Cont.)

- Developed a new questionnaire covering a fourth domain
  - Peritraumatic Emotional Dissociation Questionnaire (PEDQ)
  - Unusual or inappropriate emotions, or loss of control of emotions
  - 10 items developed by research team
  - Likert scale responses (scored 0-4)
  - Sample questions
    - ✓Not acting like oneself
    - ✓Not caring about one's own or others' safety
    - ✓Acting inappropriately giddy or silly
    - ✓Uncontrollable laughing, crying, or screaming
    - ✓Not feeling remorse in situations in which they

Questionnaire Development (Cont.)

- Focus group of Navy corpsmen with operational experience selected those items from all four questionnaires they could observe in Marines in the field
- Constructed Peritraumatic Behavior Questionnaire (PBQ), with 15 Likert scale items (scored 0-4)
  - 7 items regarding emotional dissociation (from PEDQ)
  - 2 items regarding cognitive dissociation (from PDEQ)
  - 3 items regarding somatoform dissociation (from PSDQ)
  - 3 items regarding peritraumatic distress (from PDI)

Correlation of the Retrospective, Self-Report PBQ with PTSD Symptoms Among Combat-Exposed OIF/OEF Veterans

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PBQ-SR Validation Study - Participants

	All Participants	PTSD positive	PTSD negative	test statistic	*p*
Demographics	*N* = 275	*n* = 127	*n* = 144		
Sex - Male	95%	95%	95%	$c^2 <$ 0.01	0.95
Age - Range (Median)	20-54 (27)	20-54 (27)	20-52 (27)	*F* = 0.14	0.71
Branch of Service				$c^2 =$ 9.96	**0.02**
Army	17%	20%	13%		
Marines	52%	58%	47%		
National Guard	3%	2%	4%		
Navy	28%	20%	36%		
Total Yrs of Service - Range (Median)	<1-28 (6)	<1-28 (5)	<1-28 (8)	$c^2 =$ 42.62	**0.03**
Combat Exposure Scale (CES) - *M(SD)*	21.70 (8.77)	24.92 (8.13)	18.81 (8.39)	*F* =33.96	**<0.01**
CES Categories				$c^2 =$	**<0.0**

PBQ-SR – Convergent Validity

	PBQ-SR Brief Description	CAPS B subtotal	CAPS C subtotal	CAPS D subtotal	CAPS total	CES total
Item 1	Did not act like my normal self	.58**	.51**	.48**	.57**	.27**
Item 2	Felt fearless and invulnerable	.38**	.40**	.36**	.42**	.31**
Item 3	Did not care about own/others' safety	.49**	.49**	.44**	.51**	.23**
Item 4	Felt no remorse	.48**	.46**	.45**	.50**	.40**
Item 5	Was determined to get revenge	.48**	.40**	.43**	.47**	.42**
Item 6	Kept laughing, crying, or screaming	.37**	.36**	.33**	.39**	.19*

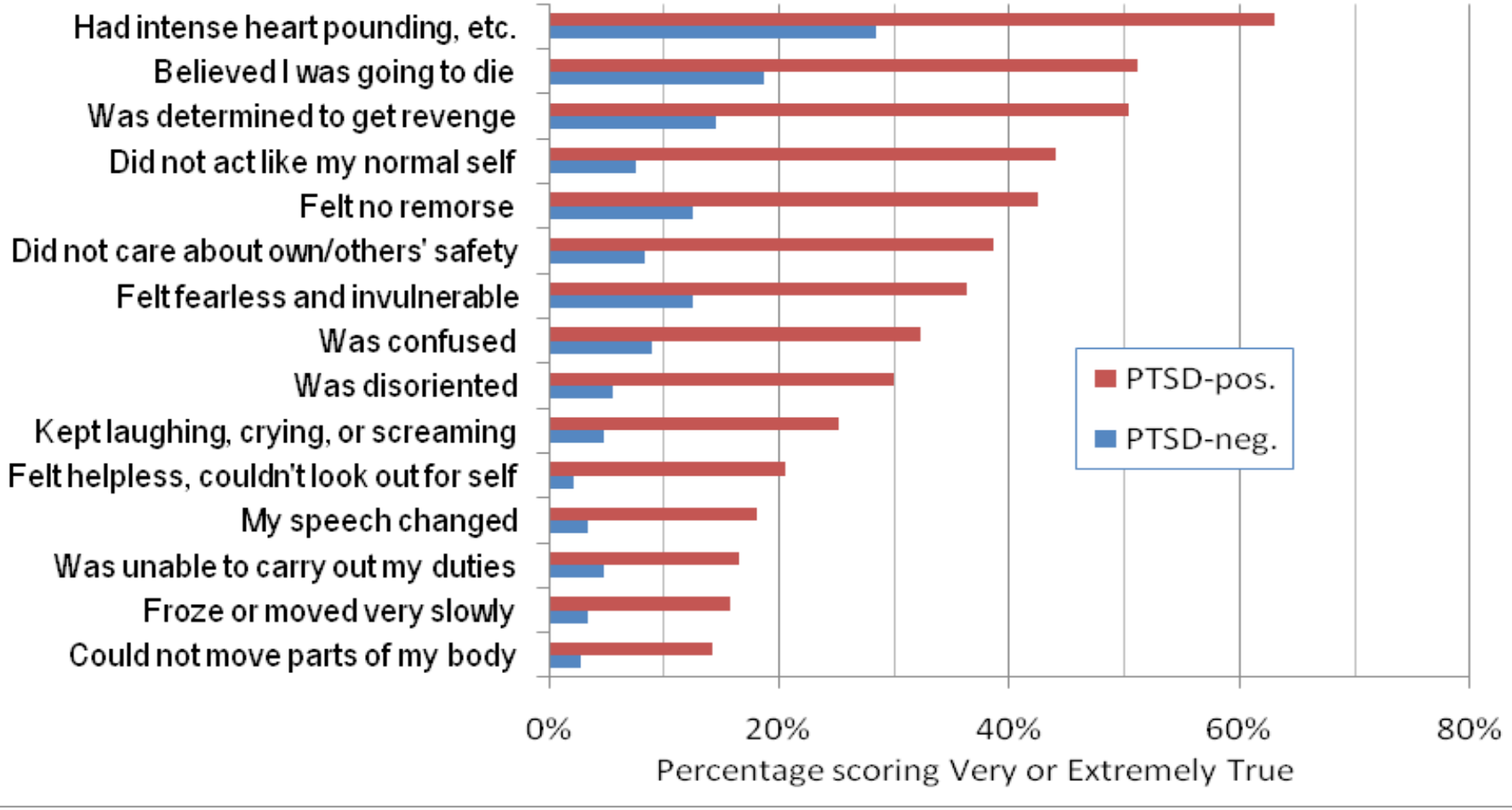
PBQ-SR – Discriminant Validity & Internal Consistency

	PBQ-SR Brief Description	SF-36 PF	SF-36 PCS
Item 1	Did not act like my normal self	-.37**	-.21**
Item 2	Felt fearless and invulnerable	-.10	-.04
Item 3	Did not care about own/others' safety	-.21**	-.07
Item 4	Felt no remorse	-.10	<.01
Item 5	Was determined to get revenge	-.21**	-.11
Item 6	Kept laughing, crying, or screaming	-.20**	-.12
Item 7	Felt helpless, couldn't look out for self	-.26**	-.20**
Item 8	Was confused	-.22**	-.11
Item 9	Was disoriented	-.21**	-.15*

- Good internal consistency
- Cronbach's a = 0.91

PBQ-SR – PTSD subgroups

Figure 1. Percentages responding Very or Extremely True to each PBQ-SR item in PTSD-positive (N=127) and PTSD-negative (N=144) groups



In-Theater Validation of the Observer-Rated PBQ in Ground Combat Units Deployed to OEF

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Methodology for Validation of the PBQ, Observer-Rated

- Developed video vignettes for training Navy corpsmen in the recognition of peritraumatic behavior changes
  - 15 scenarios portrayed by a professional actor playing a ground-combat Marine, each intended to be an exemplar of one of the fifteen PBQ-OR items
  - A 16th scenario, combining several of the PBQ behavior changes, was developed as an examination
- 30 expert raters blindly scored the 16 video enactments
  - Each of the 15 exemplar vignettes was matched with the one PBQ-OR item that it best

Expert Raters Correctly Scoring Fifteen PBQ-OR Training Video

PBQ-OR Item		Expert Raters Correctly Scoring (N=30)
1	Didn't act like normal self	27 (90%)
2	Seemed to feel fearless and invulnerable	30 (100%)
3	Didn't care about own or others' welfare or safety	26 (87%)
4	Seemed to feel no remorse	16 (53%)
5	Seemed determined to get revenge	28 (93%)
6	Couldn't stop laughing, crying, or screaming	27 (90%)
7	Seemed helpless and unable to look out for own welfare	28 (93%)
8	Seemed confused	15 (50%)
9	Seemed disoriented	30 (100%)
10	Could not move parts of his body	26 (87%)
11	Froze or seemed to move only very slowly	28 (93%)
12	Speech changed	30 (100%)
13	Could not carry out assigned duties	30 (100%)
14	Believed he was going to die	29 (97%)

Methodology for Validation of the PBQ, Observer-Rated (Cont.)

- Trained all consenting corpsmen from an infantry battalion prior to deployment to OEF (approx. 40 corpsmen)
- Also provided training in Stress First Aid (COSFA)
- Each line corpsman was asked to complete a monthly PBQ-OR for each consenting Marine under his charge
  - Over the course of a seven-month deployment
  - Approx. 12 Marines per corpsman
- Completed PBQ-ORs are being shipped back
- As enrolled corpsman complete post-deployment assessment for parent study, they are surveyed about usability and satisfaction with PBQ-OR
- Second battalion to be enrolled in Fall 2010

Questions?
Comments?

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